

Serial No.: 09/808,732  
Filing Date: March 14, 2001

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A matrix comprising solid particles and interstitial space comprising (a) a cross-linked interstitial polymer network covalently attached to said particles which forms an integrated contiguous network in said interstitial space that is permeable to liquids is effectively a large pore polymer contained within the interstitial space of the matrix and is sufficiently thin or dilute so as to not act as a significant barrier to fluid flow, and further comprises (b) a member of a binding pair, wherein at least one of the monomers used to synthesize said network comprises a hydrophilic monomer.

Claims 2-5 (cancelled).

Claim 6 (previously presented): The matrix of claim 1 wherein said interstitial polymer network further comprises a tether molecule that covalently links said interstitial polymer network to said particles.

Claim 7 (previously presented): The matrix of claim 1 wherein said solid support further comprises a blocking reagent.

Claims 8-11 (cancelled).

Claim 12 (previously presented): The matrix of claim 34 wherein said reactive moiety comprises a chemical catalyst, an enzyme or a chemical reagent.

Claims 13-25 (cancelled).

Claims 26-27 (cancelled)

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Claim 28 (original): The matrix of claim 1 wherein said solid support further comprises a blocking reagent.

Claim 29 (previously presented): The matrix of claim 1 wherein said solid particles comprise metal, metal oxide, resin or glass.

Claim 30 (previously presented): The matrix of claim 1 wherein said solid particles comprise silica.

Claims 31-32 (cancelled):

Claim 33 (previously presented): The matrix of claim 1 wherein said member of said binding pair is a cationic or anionic moiety.

Claim 34 (currently amended): A matrix comprising solid particles and interstitial space comprising (a) a cross-linked interstitial polymer network covalently attached to said particles which forms an integrated contiguous network in said interstitial space that is permeable to liquids is effectively a large pore polymer contained within the interstitial space of the matrix and is sufficiently thin or dilute so as to not act as a significant barrier to fluid flow, and further comprises (b) a reactive moiety, wherein at least one of the monomers used to synthesize said polymer network comprises a hydrophilic monomer.

Claim 35 (previously presented): The matrix of claim 1 wherein said cross-linked interstitial polymer network comprises pores comprising at least one dimension of at least 100 nanometers.

Claim 36 (previously presented): The matrix of claim 1 wherein said cross-linked interstitial polymer network comprises pores comprising at least one dimension of at least 500 nanometers.

Claim 37 (previously presented): The matrix of claim 34 wherein said cross-linked interstitial polymer network comprises pores comprising at least one dimension of at least 100 nanometers.

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Claim 38 (previously presented): The matrix of claim 34 wherein said cross-linked interstitial polymer network comprises pores comprising at least one dimension of at least 500 nanometers.